

XLIV.—*Descriptions of some new Species of Heterocera from Tropical America.* By HERBERT DRUCE, F.L.S. &c.

Fam. Lithosiidæ.

*Eudesmia punctata*, sp. n.

*Male*.—Head, thorax, and tegulæ yellow; antennæ black; abdomen yellow, with a black line extending from the base to the anus; the anal segment black; legs yellow. Primaries brown, the veins near the base yellow; a large yellow spot at the end of the cell: secondaries chrome-yellow, broadly bordered with black from the apex to the anal angle and partly along the inner margin, where it is streaked with yellow.

Expanse 1 inch.

*Hab.* Venezuela, Cucuta (*Mus. Druce*).

*Josiodes toxaridia*, sp. n.

*Male*.—Head, antennæ, thorax, and abdomen black, the sides of the abdomen yellow near the base; legs black. Primaries chrome-yellow, the costal margin, apex, outer margin, and a fine line crossing the wing near the apex all black: secondaries chrome-yellow, bordered with black at the apex and outer margin as far as the anal angle.—*Female* similar to the male, but with the black margins rather wider.

Expanse, ♂ ♀,  $1\frac{4}{10}$  inch.

*Hab.* Ecuador, Intaj (*Buckley, Mus. Druce*).

This species is allied to *Josiodes myrrah*, Cram.

*Josiodes entella*, sp. n.

*Male*.—Head, antennæ, thorax, and abdomen black, the last three segments of the abdomen dark blue; a fine yellow line on each side of the abdomen from the base to the anus; legs bluish black. Primaries black, crossed beyond the middle from the costal to the inner margin by a wide chrome-yellow band, and an elongated spot close to the apex of the same colour: secondaries deep black.

Expanse  $1\frac{3}{4}$  inch.

*Hab.* British Guiana (*Whitely, Mus. Druce*).

*Eudule donuca*, sp. n.

*Male*.—Head, thorax, and abdomen yellow; antennæ

black; legs yellow. Primaries pale yellow, the apex almost white, with three short black streaks on the white part; two black dots on the costal margin, one at the end of the cell, and there is a straight line below the cell: secondaries yellow; a small black dot at the end of the cell and a dusky streak from the base between the cell and the inner margin; the fringe of both wings black.

Expanse  $1\frac{1}{10}$  inch.

*Hab.* Ecuador, Sarayacu (*Buckley, Mus. Druce*).

This species is allied to *Eudule tritonia*, Druce.

*Eudule lobiformis*, sp. n.

*Male*.—Head, thorax, abdomen, and legs yellow; antennæ black. Primaries semihyaline pale yellow, darkest at the apex and outer margin; the costal margin folded over near the apex, forming a small lobe: secondaries semihyaline pale yellow.

Expanse 1 inch.

*Hab.* Amazons, Maranham (*Leech, Mus. Druce*).

A specimen of this species is in the National Collection from Panama, Chiriqui (*Arce*).

Fam. *Cylopodidæ*.

*Phæochlæna graba*, sp. n.

*Male*.—Head, antennæ, thorax, tegulæ, and legs black, the collar with yellow spots, the tegulæ edged with yellow; abdomen black, the basal segments yellow, the underside white. Primaries dark brown, the veins yellow; a large heart-shaped spot below the cell near the base and a round spot nearer the apex, both chrome-yellow: secondaries chrome-yellow, broadly bordered with black.

Expanse  $1\frac{3}{4}$  inch.

*Hab.* Peru, Rio Napo (*Whitely, Mus. Druce*).

A specimen of this species is in the National Museum.

*Phæochlæna amazonica*, sp. n.

*Male*.—Head, collar, and abdomen yellow; antennæ and thorax black; tegulæ black, edged with yellow; abdomen with a black line down the middle and one on each side; the underside and legs yellowish white. Primaries dark brown, the veins pale yellow; a large triangular-shaped pale yellow spot close to the base and a small oval-shaped spot beyond

the cell: secondaries yellow, the costal margin, apex, and outer margin broadly black.

Expanse  $1\frac{4}{10}$  inch.

*Hab.* Amazons, Santarem (*Leech, Mus. Druce*).

This species is allied to *P. solilucis*, Butl.

*Thyrgis ceron*, sp. n.

*Male*.—Head, antennæ, tegulæ, thorax, abdomen, and legs black; the underside of the head yellow. Primaries black, crossed from the middle of the costal margin to the anal angle by a wide pale yellow band: secondaries black, the apex bordered with yellow; the underside the same as above.

Expanse  $2\frac{1}{4}$  inches.

*Hab.* Colombia, Santa Martin, Llanos of Rio Meta (*Child*); E. Peru (*Whitely, Mus. Druce*).

This species is allied to *Thyrgis melitta*, Cram.

*Getta labana*, sp. n.

*Male*.—The head, tegulæ, thorax, abdomen, and legs brownish black; the underside of the abdomen white. Primaries black, crossed about the middle from the costal margin to the anal angle by a wide cream-coloured band; secondaries brownish black: the underside the same as above, excepting that the secondaries have a large yellow spot at the apex.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* Ecuador, Sarayacu (*Buckley, Mus. Druce*).

*Getta* (?) *lysia*, sp. n.

The head, antennæ, tegulæ, thorax, and abdomen black, the latter banded with white on the underside; underside of the head, base of the palpi, and the anus yellow; a white line down the middle of the thorax. Primaries brownish black, the veins grey; a white band crosses the wing beyond the middle; the band tapers from the costal margin to a point on the outer margin: secondaries black.

Expanse  $1\frac{4}{10}$  inch.

*Hab.* Amazons, Ceara (*Leech, Mus. Druce*).

*Getta ennia*, sp. n.

*Male*.—Head, antennæ, tegulæ, thorax, abdomen, and legs dark brown. Primaries and secondaries dark brown; primaries crossed beyond the middle from the costal margin to

the anal angle by a wide pale yellow band. Underside as above.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* South Brazil (*Mus. Druce*).

*Flavinia volumnia*, sp. n.

*Male*.—Head, antennæ, thorax, abdomen, and legs black. Primaries black; a wide band from the base along the inner margin and one crossing the wing from the costal margin to the anal angle both light yellow: secondaries light yellow; the costal margin, apex, outer and inner margin edged with black; a wide black line, becoming wider about the middle, extends from the base to the outer margin.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* East Peru, Rio Napo (*Whitely, Mus. Druce*).

Allied to *Flavinia dichroa*, Perty.

*Flavinia Durnfordi*, sp. n.

*Male*.—Head, antennæ, thorax, and abdomen black; the tegulæ pale yellow; the underside of the abdomen yellowish white; legs pale brownish yellow. Primaries black; a small yellow streak from the base partly along the inner margin; a narrow yellow band at the end of the cell, partly crossing the wing from the costal margin to near the anal angle, but not reaching it: secondaries black, with two broad yellow bands from the base to the outer margin, the first band close to the inner margin, the second nearest the apex.—*Female* very similar to the male.

Expanse 1 inch.

*Hab.* Buenos Ayres (*Durnford, Mus. Druce*).

*Flavinia eion*, sp. n.

*Male*.—Head and tegulæ yellow; antennæ, thorax, and abdomen above black; the underside of the abdomen white; a fine yellow line on each side of the abdomen extending from the base to the anus; the legs black. Primaries black, the apex edged with white; a wide yellow streak extends from the base below the cell nearly to the anal angle; a rather broad yellow band crosses the wing beyond the middle: secondaries yellow, the apex and outer margin broadly bordered with black; a submarginal black band extends from the base to the apex; a wide black line extends from the end of the cell to the middle of the outer margin: the underside the same as the upperside.

Expanse  $1\frac{1}{4}$  inch.

*Hab.* Bolivia (*Mus. Druce*).

*Flavinia velina*, sp. n.

*Male*.—Head, antennæ, thorax, and the upperside of the abdomen black, the sides of the abdomen yellow; the underside white; the tegulæ yellow at the base; the legs greyish white. Primaries yellow; the costal margin, apex, and outer margin broadly banded with black; no black band crossing the wing, as in *F. postica*, Walk.: secondaries bright yellow, the apex and outer margins broadly bordered with black.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* East Peru (*Whitely, Mus. Druce*).

*Micropus ochra*, sp. n.

*Male*.—Head, antennæ, and palpi black; thorax and upperside of the abdomen black, with a central narrow yellow line extending from the back of the head almost to the anus; the underside of the abdomen white. Primaries yellow, the costal and inner margin edged with black, the apex and outer margin broadly black: secondaries yellow, bordered with black from the apex to the anal angle. Underside as above.—*Female* very similar to the male.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* Venezuela (*Mus. Druce*).

*Myonia choba*, sp. n.

*Male*.—Head, antennæ, thorax, tegulæ, and abdomen above black, the underside of the latter white; a spot at the back of the head, a row of spots down the middle of the abdomen, and a line on each side all yellow; legs black above, whitish on the underside. Primaries brownish black, with a round yellow spot on the costal margin nearest the apex: secondaries deep black, crossed about the middle from the costal to the inner margin by a wide yellow band.—*Female* very similar to the male, but with a yellow band on the primaries.

Expanse  $1\frac{4}{5}$  inch.

*Hab.* Amazons, Santarem (*Leech, Mus. Druce*).

*Myonia mitys*, sp. n.

*Male*.—Head, antennæ, thorax, and abdomen black; underside of the head yellow; tegulæ yellow, edged with black; a fine white line on each side of the abdomen; the underside and legs white. Primaries black, the veins yellow; a yellow

band partly crosses the wing beyond the middle: secondaries deep black, with a round yellow spot at the end of the cell.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* Amazons, Santarem (*Leech, Mus. Druce*).

*Phintia tegyra*, sp. n.

*Female*.—Head, thorax, abdomen, and legs black. Primaries black, partly crossed beyond the middle from the costal margin by a chrome-yellow band: secondaries white, bordered with black.

Expanse  $1\frac{1}{4}$  inch.

*Hab.* Ecuador (*Whitely, Mus. Druce*).

*Devara Carderi*, sp. n.

*Male*.—Head, antennæ, thorax, tegulæ, and abdomen black; the underside of the abdomen and legs yellowish white. Primaries black; an elongated white streak from the base nearly to the middle and a rather large crescent-shaped white band at the end of the cell: secondaries white, bordered with black from the apex to the anal angle.

Expanse  $1\frac{1}{4}$  inch.

*Hab.* Interior of Colombia (*Carder, Mus. Druce*).

*Devara* (?) *nasor*, sp. n.

*Female*.—Head, collar, tegulæ, thorax, abdomen, and legs blackish brown; antennæ black; tegulæ spotted with yellow. Primaries brown, the veins yellow; a zigzag yellowish-white band crosses the wing about the middle from the costal almost to the inner margin; a yellowish-white spot on the outer margin near the apex: secondaries brownish white, broadly bordered with dark brown, the inner margin broadly shaded with brown.

Expanse  $1\frac{3}{4}$  inch.

*Hab.* Antioqua, Fentino (*Salmon, Mus. Druce*).

*Devara eos*, sp. n.

*Male*.—Head, collar, tegulæ, thorax, abdomen, and legs black. Primaries black; a streak at the base and four spots at the end of the cell yellowish white: secondaries white, very broadly bordered with black.

Expanse  $1\frac{4}{10}$  inch.

*Hab.* Ecuador, Chiguinda (*Buckley, Mus. Druce*).

*Nelo pyrgion*, sp. n.

*Male*.—Head, antennæ, thorax, abdomen, and legs black. Primaries black, crossed beyond the middle by a dark red band glossed with dark blue: secondaries black: the underside of both wings similar to the upperside, but browner in colour.

Expanse  $1\frac{4}{10}$  inch.

*Hab.* Ecuador, Balsapamba (*Mus. Druce*).

This species is allied to *Nelo tolosa*, Druce.

*Nelo choba*, sp. n.

*Male*.—Head, antennæ, thorax, abdomen, and legs black; tegulæ red. Primaries black, shot with bright blue from the base to beyond the middle; a large orange-red spot beyond the cell, glossed with blue: secondaries black, glossed with dark blue from the base to beyond the middle; underside of both wings dark brown, the veins all black, and a large red spot at the base of the secondaries.

Expanse  $1\frac{3}{10}$  inch.

*Hab.* N. Peru (*Krause, Mus. Druce*).

*Nelo racilia*, sp. n.

*Male*.—Head, antennæ, tegulæ, thorax, abdomen, and legs black, a reddish spot on the base of the tegulæ; the underside of the abdomen brownish white. Primaries dark brown, with a large, almost central, orange-red spot, pointed at the end of the cell: secondaries dark brown. Underside similar to the upperside, but much paler in colour, and with all the veins black.

Expanse 1 inch.

*Hab.* Colombia, Pacho, Tolima, Fusagusuga (*Chapman, Mus. Druce*).

This species is allied to *Nelo veliterna*, Druce, and may be the northern form of that insect.

*Nelo diasia*, sp. n.

*Male*.—Head, antennæ, thorax, tegulæ, abdomen, and legs black. Primaries black, crossed about the middle from the costal margin to the anal angle by a wide orange-yellow band: secondaries blackish brown, the underside pale brown, the veins darker.

Expanse  $1\frac{1}{4}$  inch.

*Hab.* Bolivia (*Garlepp, Mus. Druce*).

*Nelo pandia*, sp. n.

*Male*.—Head, antennæ, thorax, tegulæ, abdomen, and legs dark brown. Primaries dark brown, with a large oval-shaped orange-yellow spot at the end of the cell: secondaries dark brown, the underside very similar to the upperside, but paler.

Expanse  $1\frac{3}{10}$  inch.

*Hab.* Bolivia (*Garlepp, Mus. Druce*).

*Nelo thyrea*, sp. n.

*Male*.—Head, antennæ, thorax, tegulæ, abdomen, and legs black. Primaries bluish black, with a large oval white spot at the end of the cell: underside similar to the upperside, but the costal margin and the apex silver-grey, crossed by the black veins: secondaries blue-black, the underside silvery grey, with the veins all black.

Expanse  $1\frac{4}{10}$  inch.

*Hab.* Bolivia (*Garlepp, Mus. Druce*).

*Nelo hermaea*, sp. n.

*Male*.—Head, antennæ, thorax, tegulæ, abdomen, and legs black. Primaries black, with a large oval-shaped chrome-yellow spot beyond the band crossed with black veins: secondaries deep black; the underside greyish black, with all the veins black.

Expanse  $1\frac{3}{4}$  inch.

*Hab.* Ecuador, Balsapamba (*Mus. Druce*).

This species is allied to *Nelo paterna*, Druce.

*Sangala superba*, sp. n.

*Male*.—Head, antennæ, thorax, and tegulæ black; abdomen above blue-black, the sides striped with bright red, the underside black; legs black. Primaries dark glossy blue, with a large bright red band crossing the wing at the end of the cell from the costal margin almost to the anal angle; on the underside the band is pale orange-colour: secondaries glossy dark blue, the underside dark brown; all the veins black; the costal margin and a streak between each vein bright red.

Expanse 2 inches.

*Hab.* Colombia, Manaure (*F. Simons, Mus. Druce*).



*Scotura avara*, sp. n.

*Male*.—Head, antennæ, thorax, abdomen, and legs black; front of head and tegulæ greyish; a white line extends down the middle of the abdomen from the base almost to the anus; the underside white. Primaries black, the veins white from the base to the middle; a wide white band crosses the wing about the middle, but does not quite reach the costal margin; secondaries semihyaline white, broadly bordered with black at the apex and round the outer margin. The underside very similar to the upperside, the secondaries with a white spot at the apex.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* Ecuador, Sarayacu (*Buckley, Mus. Druce*).

## Fam. Dioptidæ.

*Polypetes cistrina*, sp. n.

*Male*.—Head and antennæ black, underside of the head yellow; thorax and tegulæ brown, the latter edged with white; a yellow spot on the base of the tegulæ; abdomen black, grey at the base and white on the underside; legs black. Primaries brown, the veins and a spot on the outer margin near the apex yellow; a rather wide white band partly crosses the wing from about the middle of the costal margin: secondaries white, broadly bordered with black at the apex and round the outer margin.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* Ecuador, Chiguinda (*Buckley, Mus. Druce*).

*Polypetes mirma*, sp. n.

*Male*.—Head, antennæ, thorax, tegulæ, abdomen, and legs black, the underside of the abdomen white. Primaries from the base to about the middle white, but slightly dusky close to the base; the outer half of the wing black; a small streak at the end of the cell and two small spots close to the apex white: secondaries white, broadly bordered with black.

Expanse 1 inch.

*Hab.* Bolivia (*Garlepp, Mus. Druce*).

*Astyochia dolens*, sp. n.

*Male*.—Head, antennæ, thorax, tegulæ, abdomen, and legs black. Primaries semihyaline black, darkest along the costal margin, at the end of the cell, and at the apex; a whitish

spot between the end of the cell and the apex: secondaries semihyaline white, broadly bordered with black; the veins all black.

Expanse 1 inch.

*Hab.* Bolivia (*Garlepp, Mus. Druce*).

*Astyochia ithra*, sp. n.

*Male.*—Head, antennæ, thorax, tegulæ, abdomen, and legs black. Primaries black, slightly hyaline at the base; on the underside the apex is grey: secondaries white, very broadly bordered with black.

Expanse  $1\frac{1}{6}$  inch.

*Hab.* Bolivia (*Garlepp, Mus. Druce*).

XLV.—*Foraminifera from the "Cambridge Greensand."*

By FREDERICK CHAPMAN, A.L.S., F.R.M.S.

PART II. \*

Subfamily *Nodosariniæ* (continued).

FRONDICULARIA, DeFrance [1824].

*Frondicularia inversa*, Reuss.

*Frondicularia inversa*, Reuss, 1845, Verstein. böhm. Kreidef. pt. i. p. 31, pl. viii. figs. 15-19, pl. xiii. fig. 42; Chapman, 1894, Journ. R. Micr. Soc. pp. 155, 156, pl. iii. fig. 8.

A well-known species in the Gault and Chalk. At Folkestone it was found only in zone x.

A few fragments from Swaffham.

*Frondicularia lanceola*, Reuss.

*Frondicularia lanceola*, Reuss, 1860, Sitzungsab. d. k. Ak. Wiss. Wien, vol. xl. p. 198, pl. v. fig. 1; Chapman, 1894, Journ. R. Micr. Soc. p. 157, pl. iii. fig. 15.

Two specimens, one of which is fragmentary, were found at Swaffham.

*Frondicularia Ungerii*, Reuss.

*Frondicularia Ungerii*, Reuss, 1862, Sitzungsab. d. k. Ak. Wiss. Wien, vol. xlvi. p. 54, pl. iv. figs. 11 a, b; Chapman, 1894, Journ. R. Micr. Soc. p. 157, pl. iii. fig. 16.

Two specimens from Swaffham.

\* For Part I. see this Magazine for January 1899, pp. 48-66.